EU blanket ban on PFAS risks decarbonisation goals

In January 2023, five Member States proposed the EU to ban a group of more than 10,000 chemicals. PFAS, per- and polyfluoroalkyl substances, are persistent chemicals applied in virtually every industry to ensure durable products.

The European power sector, in line with the position of other network operators, like water and waste operators, welcomes the fundamental efforts to reduce the use of PFAS and ensure an environmentally **conscious approach to protect people and the environment.** However, an overly restrictive ban must not lead to a *de facto* blockade of clean technologies needed for a secure and decarbonised energy supply. PFAS usage should be limited with a holistic view, considering the sector's entire value chain, while allowing the power sector to enable the energy transition.

In the energy sector, PFAS groups are used in essential, professional and long-life industrial products along the entire power sector value chain which cannot presently be substituted. To mention some key use cases, PFAS is used in photovoltaic (PV) installations, thermal and nuclear power plants, electrolysers, high power converters, hydrogen compressors, transformers, batteries, cables, heat pumps and switchgear. As manufacturers are not required to disclose the presence of PFAS in their products, it is important to highlight that utilities face challenges in identifying all cases of PFAS usage.

Therefore, any proposed ban on PFAS must consider the impact that it could have on the availability of electrical equipment used in generation, transmission and distribution networks, which is critical to reaching the decarbonisation goals of the Union. Otherwise, any benefits from a ban on PFAS, for which reliable and technically proven substitutes do not exist at utility scale would be outweighed by the negative impact on successful electrification, the use of clean power generation and a reliable electricity system.

The industry is committed to addressing the issue and actively contributing to climate and environmental protection through conscious asset management. In collaboration with politicians and scientists, the industry is willing to engage in constructive discussions to establish and commit to effective processes for recycling and implementing industry-specific circular economy practices at reasonable expenses for customers.
Safety assurance is at the core of the power industry's priorities. Today, the sector actively minimises PFAS exposure and emissions by containing and encapsulating PFAS substances and by training and certifying personnel in handling and recycling.

In summary, the power sector recommends the following to ensure a realistic PFAS ban:

1. Measure the impact of the regulation in relation to the greater objective of the EU's mission to decarbonise
2. Acknowledge that certain PFAS uses in the power sector are currently essential for society and no viable alternatives are yet available at scale
3. Differentiate between each compound, their function, uses and effects
4. Assess the capacity of the industry to provide alternatives and the associated delays
5. Apply circular economy principles by allowing for the repair and maintenance of the assets already in place
6. Implement a timely reassessment policy in light of technological and market advancements

Measure the impact of the regulation in relation to the greater objective of the EU's mission to decarbonise

The PFAS ban should take a pragmatic and nuanced approach to ensure that the EU can reach its climate targets set for 2030, 2040 and 2050 whilst ensuring security of supply. Reaching these targets entails that electricity capacity will nearly double by 2030 and the electrification rate must triple by 2050[1]. The proposed restriction could significantly affect the critical areas of renewable and low-carbon power production, power distribution, energy storage systems, hydrogen technologies, and electrification of district heating and cooling (DHC) and industry. This would hinder the acceleration required at this crucial time and stall progress when momentum is essential.

Acknowledge that certain PFAS uses in the power sector are currently essential for society and no viable alternatives are yet available at scale

The proposed restriction on PFAS should be refined to differentiate between dispensable and essential uses, as well as between personal and industrial uses where there are no viable alternatives. The European Commission's Chemicals Strategy for Sustainability Towards a Toxic-Free Environment (2020) calls for a phase-out of PFAS in the EU, "**unless it is proven essential for society"**. We welcome that the European Commission has now taken the next step by defining the concept of "essential uses" in the Communication of April 2024. The communication should be understood as encompassing the entire electricity sector and across the value chain.

This approach of essential uses acknowledges that the utilisation of PFAS in industrial processes can be highly intricate, requiring a comprehensive evaluation of the technical functionality of each PFAS and the suitability of alternative substances.

In conclusion, considering the essential role the electric sector plays for society, particularly in ensuring the security of supply and fulfilling decarbonisation objectives, the PFAS restriction should provide a special regime for articles or mixtures containing PFAS that contribute to facility safety, electrical supply security, as well as renewable and low-carbon electric means of production.

Differentiate between each compound, their function, uses and effects

As defined by the European Chemicals Agency (ECHA), there are over 10,000 PFAS types with different properties. This needs to be reflected in regulation through differentiated provisions. The sub-categories under PFAS should be differentiated to aim at prioritising restriction on the most hazardous applications where there are viable alternatives available.

Appropriate exemptions should be introduced to avoid overlap with existing legislation. For instance, for the many fluorinated gases (F-gases) which are also categorised as PFAS substances. This is to ensure consistency with the Fluorinated Greenhouse Gas Regulation and avoid any overlaps and excessive limitations that make it impossible for distribution system operators (DSO) to perform essential electricity distribution services for the public.

Moreover, fluoropolymers are non-toxic, non-bioavailable, non-water-soluble and non-mobile molecules according to the GHS classification, and applications using fluoropolymers rarely find viable PFAS-free alternatives. The power sector considers further research into the possible risks of fluoropolymers to be important. We therefore intend to contribute, among other things, by collecting data together with the manufacturers. Furthermore, alternatives to PFAS polymers may conflict with other regulations, such as the POP regulation currently considering potential restrictions for silicone polymers.

[1] Eurelectric. *Power Barometer* (2023)

Assess the capacity of the industry to provide alternatives and the associated delays

The electricity sector is aware of its responsibility in dealing with PFAS and is already looking for alternative substances to substitute PFAS of relevance for the electricity sector as well as for safe recycling concepts. In the short to medium term, however, there is no guarantee that products with the necessary technical and safety requirements will be available at large scale. To avoid adverse effects on the energy system, a proportionate and responsible approach is needed.

Distinctions should be made between PFAS applications with available alternatives (e.g., certain specific coatings) and those lacking safe alternatives for the foreseeable future (e.g., nanoscience, membranes, semiconductors, and sealings). Specific derogations for the latter should be introduced, aligning with the REACH Regulation's emphasis on evaluating socio-economic impact and alternative solution availability (Article 68).

We welcome the substantial effort made in the restriction proposal to identify the materials and use cases without available alternatives. Despite the extensive research in the ECHA analysis, there are numerus and important applications in the power sector which were omitted with need for further clarification. Furthermore, it is crucial to contextualise the analysis results considering the inadequate information currently accessible regarding the presence of PFAS. This is because manufacturers are not obliged to provide the downstream users, including the power sector, with information regarding PFAS content in equipment.

Apply circular economy principles by allowing for the reparation and maintenance of the assets in place

The PFAS provisions should enable the ability to repair and maintain existing installations, thereby maximising their utility and minimising unnecessary waste. An undifferentiated prohibition would lead to premature decommissioning, contradicting the fundamental goal of reaching a more circular economy. The power sector invests in assets with a long-term perspective, often planning for lifetimes of decades. Moreover, from a technical standpoint, the search for PFAS-free alternatives becomes notably more complex when substituting existing installations and procuring spare parts, in contrast to the challenges associated with constructing new installations.

Implement a timely reassessment policy in light of technology and market situation

Furthermore, for all uses benefiting from derogations, a mechanism should be established to reassess the derogation period if no substitution meeting equivalent safety or production efficiency properties is available within the specified timeframe.
Lastly, there is a need to ensure that regulation considers the emergence of new technologies being developed to contribute to the achievement of climate objectives. These technologies could potentially require products containing PFAS for their operation, although it is not possible at this stage to determine this precisely, given their level of maturity.